

What is claimed is:

1. A flux-cored wire for gas-shielded arc welding comprising:

a steel sheath, and a flux filled in the steel sheath;

wherein the flux-cored wire has, on the basis of the total mass of the flux-cored wire, a C content of 0.20% by mass or below, a Si content in the range of 0.06 to 1.10% by mass, a Mn content in the range of 0.55 to 1.60% by mass, a Cr content of 2.60% by mass or below, a Mo content in the range of 0.30 to 1.50% by mass, a Mg content in the range of 0.20 to 1.50% by mass, a N content in the range of 0.005 to 0.035% by mass and a B content in the range of 0.001 to 0.020% by mass

the flux has, on the basis of the total mass of the flux-cored wire, a TiO_2 content in the range of 4.2 to 8.2% by mass and a fluorine compound content in terms of F content in the range of 0.025 to 0.55% by mass, and

the flux-cored wire has, on the basis of the total mass of the flux-cored wire, an Al content of 0.50% by mass or below, a Nb content of 0.015% by mass or below, and a V content of 0.015% by mass or below.

2. The flux-cored wire for gas-shielded arc welding according to claim 1, wherein the Mn content is in the range of 0.55 to 1.45% by mass on the basis of the total mass of the flux-cored wire.

3. The flux-cored wire for gas-shielded arc welding

according to claim 1 further containing, on the basis of the total mass of the flux-cored wire, at least one selected from the group consisting of Ti other than TiO_2 in a Ti content in the range of 0.005 to 0.3% by mass and Zr in a Zr content in the range of 0.002 to 0.3% by mass.

4. The flux-cored wire according to claim 1, wherein the ratio of total Ti content to N content is in the range of 250 to 500, the total Ti content and the N content being the Ti content and the N content on the basis of the total mass of the flux-cored wire.